

# Science teams receive recognition

Roger Billica, chief of the Medical Operations Branch presented three Certificate of Achievement Awards to the Water and Food Analytical Laboratory staff last month for their support of the shuttle/Mir missions and Early Human Testing Initiative.

Team members including John Schultz, Sandy Carr, Lydia Ding, Mark Homan, Stephanie Jackson, Mike Kuo, Jose Limardo, Paul Mudgett, Liz Pierre, Debrah Plumlee, Jeff Rutz, John Straub, Judy Svoboda, Richard Sauer and Curt Wiederhoeft were recognized for the development skills and support of JSC's Mir and regenerative life support mission.

Scientist Paul Mudgett and his team, were recognized for their key role in developing and supplying the hardware needed to transfer water from the shuttle to Mir. Senior Chemist Mark Homan and his team were recognized for their outstanding support provided to the Mir

Water Collection and Analysis project resulting in successful return of over 30 Mir water samples from STS-71, STS-74 and STS-79.

Engineer Liz Pierre and her team members received recognition for their technical and analytical support of the Early Human Testing Initiative Phase II Test, including the 30-day manned test.

**Secretaries earn top honors**  
Two secretaries recently earned the Marilyn J. Bocking Award for secretarial excellence.

Karen Kraak of the Systems Division in the Mission Operations Directorate was recognized for her enthusiasm, dedication and persistence in taking on new responsibilities and completing tasks that make her office environ-



Mudgett



Homan



Pierre



Kraak



Haefner



Burbank

ment a safer place to work. She was cited for her efficiency and accuracy in handling two branch offices as well as her willingness to support others near her office that have no secretary.

Claranita Haefner of the Space Shuttle Business Management Office was recognized for her excellent self-motivation, anticipation and dedication to the organization's objectives and goals.

Her personal dedication, professionalism, team player attitude and vast knowledge of the space shuttle program make her an invaluable member of the space shuttle team.

## Burbank dies

Former NASA employee Paige Burbank died last month after a lengthy illness.

Burbank joined the National Advisory Committee for Aeronautics in 1948 at Langley Research Center. At Langley he was assigned to the Unitary Wind Tunnel where he was involved in pioneering research in the field of supersonic aerodynamic heating.

His work involved fundamental research of basic theory and experimental verification. As a part of his work he investigated the effects of protuberance heating and the resulting Technical Notes are still used in universities and industry as the foundation for this area. He also was responsible for the conduct and

analysis of detailed heating and pressure distribution investigations of the then secret SR-71 and the NACA X-15 aircraft.

Burbank transferred to the Space Task Group and was in the initial group that moved to Houston to establish the Manned Spacecraft Center. In the Engineering Directorate he was responsible for the Light Gas Gun and did exploratory research on hypersonic impacts. He transferred to the Space Shuttle Program Office and was involved in the shuttle performance capability.

Burbank retired from NASA in 1980 and was later employed by Rockwell International where he continued his contributions to the Space Shuttle Program.

February is rodeo month

## Rodeo tickets go on sale next week

The Employees Activity Association will begin selling Houston Livestock Show and Rodeo tickets Thursday at the Exchange Store.

The EAA will pass out numbers to employees at 7 a.m. Thursday for Rodeo tickets. Tickets cost \$10 and badged employees are limited to four tickets each. The Exchange Store also will sell carnival packages for \$10.

A limited number of tickets are available for the following performances:

- 7 p.m. Feb. 14, Alan Jackson and LeAnn Rimes;
- 7 p.m. Feb. 15, Collin Raye, Trace Adkins, and Gary Allen;
- 4 p.m. Feb. 16, Tim McGraw and Chris LeDoux;
- 7 p.m. Feb. 17 and 18, George Strait;
- 7 p.m. Feb. 19 and 20, Brooks and Dunn;
- 7 p.m. Feb. 21, Mary Chapin Carpenter, Patty Loveless and Kathy Mattea;
- 11 a.m. Feb. 22, Earth, Wind and Fire;
- 7 p.m. Feb. 22, Tracy Lawrence and Rick Trevino;
- 4 p.m. Feb. 23, Emilio and Grupo Limite;
- 7 p.m. Feb. 24, Clay Walker;
- 7 p.m. Feb. 25 and 26, Reba McEntire;
- 7 p.m. Feb. 27, Wynonna
- 7 p.m. Feb. 28, Hank Williams, Jr., Charlie Daniels, Marshall Tucker Band and Bo Diddley;
- 7 p.m. March 1, Mark Chesnutt and Terri Clark;
- 4 p.m. March 2, Vince Gill.

For more information, call Valerie Marburger x34214.

## Workers should use information lines for updates

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but we did have some branches that were broken because of the weight of the ice."

When weather conditions exist, employees are urged to call information lines and not call the JSC Emergency Operations Center for weather updates and the status of the center. Employees can monitor conditions at JSC by calling the Employee Information Line at x36765 or Emergency Information Line at x33351. If the center should close due to weather conditions, the media is notified so they may report whether employees should report to work.



**Webster Intermediate School students gear up for the STS-81 mission by participating in simulations. Above, Nathan Paloski checks the orbit ground tracking chart to pinpoint locations. Students request photos by giving latitude, longitude and times. Right, Amber Kuhn and Michael Loh transmit photo requests to undergraduate and high school students who verify and send them to flight controllers in Mission Control at JSC.**



## Kidsat brings space shuttle experience to classrooms

STS-81 is supporting the second flight of KidSat, NASA's pilot education program that uses an electronic still camera aboard the shuttle to bring the frontiers of space exploration to 15 U.S. middle school classrooms via the Internet.

Webster Intermediate School is one of the 15 KidSat sites actively participating in site selection for the electronic still imagery. Webster teachers Kim Bennett and Kaylynn Burns and 30 students have been preparing since September.

"Our students functioned as a flight control team here at the school during the sims. We're really looking forward to working with the kids during the actual mission," said Bennett.

The teachers used a 15-chapter teachers' guide taking students through a series activities designed to hone their skills in map reading, plotting the shuttle's ground track and choosing geographic features to photograph during the flight. The students participated in two preflight simulations with the University of California at San Diego control center and the Jet Propulsion Laboratory in December.

During the mission, the KidSat mission operations at UCSD will be staffed by undergraduate and high school students. The center is modeled after Mission Control at JSC. The students receive telemetry from the shuttle on their computers and listen to and receive instructions from flight controllers at JSC.

The KidSat mission team monitors the shuttle's progress around

the clock and continually provides up-to-date information to the middle schools, who are using the Internet to send instructions to photograph specific regions of the Earth. Since changes in the shuttle's orbit can affect selections, UCSD constantly updates this information so that the schools may re-plan their requests. This is done through a sophisticated World Wide Web site that allows students access to interactive maps of orbit ground tracks.

When the image requests have been verified by KidSat mission operations, they are compiled into a single camera control file and forwarded electronically to the KidSat representatives at JSC. They pass this file on to flight controllers who uplink it to an IBM Thinkpad connected to the camera. Software on the Thinkpad, developed by students working at JPL, uses commands to control the camera. These same students trained astronauts on the use of the software and installation of the camera.

After the photographs are taken, they are sent down to a data system at JPL, staffed by high school students during the mission and posted on the World Wide Web for the students to study and analyze.

Some of the topics the students explored during the first KidSat mission were weather, biomes, the relationship between history and geography and the patterns of rivers on the landscape. Images and student results are posted at: <http://www.jpl.nasa.gov/kidsat>

## Phase 1 manager praises ground orbit teams

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so that he gets up there and brings me back in time for our next child's birth."

For five days the Mir cosmonauts and Atlantis astronauts will work together to transfer more than 6,000 pounds of water, experiments and logistics items. Blaha will spend time briefing Linenger on Mir systems and experiments in work.

Linenger said that he hopes to expand the research done and his knowledge of the Earth during his time on Mir.

"The experiments I'm doing are redesigned and new experiments," he said. "We're taking up a lot of new hardware, so there will be some new things along those lines. As a physician I think I'm going to be a little bit more attuned to some of the physiological changes that take place. Hopefully, I'll be able to observe that a bit more closely. My goal in life is to become a real good geographer, to the point where I can peek out a window and pick out

where I'm flying over Earth, so I've got a unique perspective and adequate time to train as a geographer."

Phase 1 Program Manager Frank Culbertson praised both the ground, shuttle and Mir crews for a successful docking during an early morning briefing Wednesday.

"A lot of times we end up with drama associated with these docking missions and it gets a lot of interest if we are working problems like jets or whatever, and without that, people may think missions are routine or that they're easy," he said.

"Even without the publicity of some problem we are working, there is a lot of drama. Those who are involved in it such as the mission control teams and the crew members know that very well. There is plenty of drama to be had as you do your job and if you do it well, it doesn't appear to be so, but once again there was lots of tension and anticipation as we went through this one and a lot of good solid hard work on the part of

everybody both in preparation and in execution to make this happen.

"The teams are making it look easy, but it is still not an easy task to bring two 100 ton vehicles together going 18,000 miles per hour and do it as precisely and as gently as it has been done as well as to execute the transfers that are occurring as smoothly as they are. They worked very hard to make it look easy, but it was not and I take my hats off to all the teams involved," said Culbertson.

Rendezvous and docking went smoothly as Baker and his crew kept well within constraints set by the ground team.

"All the burns were exactly on time," said Bob Castle, mission operations representative. "All of the navigation performance and everything through the rendezvous and the approach was flawless. Contact conditions were excellent, well within what we aimed for."

Atlantis' trip to Mir began as well as the docking operations. The

shuttle lifted off from Kennedy Space Center's Launch Pad 39B at 3:27 a.m. CST and the crew spent the first few days preparing for the transfer of supplies to Mir.

"It was a great countdown, no problems whatsoever during ascent," said Baker during an interview early Tuesday. "The only thing I can think of is that this is an airplane and the more you fly them, the better they work. If we keep flying Atlantis like we've been doing hopefully it will keep working better and better."

Atlantis is expected to undock with the Mir station taking Blaha and leaving Linenger at 8:12 p.m. on Sunday. Atlantis will return to KSC's Shuttle Landing Facility at 6:57 a.m. CST on Wednesday.

Linenger will remain on the Russian station until May when the crew of STS-84 will pick him up and leave Astronaut Mike Foale. During his tour on Mir, Linenger will conduct a space walk—a first for an American in a Russian space suit.